STRONGER THAN A HURRICANE

How CHP Powered Margaritaville Through Irma's Devastation

During **Category 4 Hurricane Irma**, the Margaritaville Resort in St. Thomas endured winds exceeding 130 mph and widespread power outages that affected over 90% of the island. While most of St. Thomas remained without power for months, the resort's **off-grid Combined Heat and Power (CHP) system** demonstrated remarkable resilience. The CHP system continued to operate flawlessly, supplying consistent power while the surrounding area remained in darkness.

Thanks to the CHP system's uninterrupted performance, Margaritaville was able to sustain critical functions throughout the storm. Essential services, including lighting, communications, and emergency systems, remained operational, ensuring that the resort could shelter guests and manage post-storm recovery more effectively. This reliable power supply made a significant difference in the resort's ability to respond during and after the hurricane.

The system's resilience is powered by **Capstone microturbines**—starting with a **C1000R** and expanding to a **C800R**—which generate up to 1,800 kW of electricity. These low-emission microturbines run independently on **clean-burning propane.** The resort's on-site **35,000-gallon propane tank** provides a 14-day fuel supply, ensuring continued power generation during prolonged grid outages.

In addition to storm resilience, the CHP system delivers substantial cost savings and environmental benefits. Operating costs are roughly **50% lower** than local utility power, resulting in annual energy **savings of over $1 million**. The system achieves **99.997% uptime** and reduces the resort's carbon footprint by 5,000 tons of CO_2—equivalent to removing about 500 cars from the road each year.

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